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Adm - 12, 6

**NRO REVIEW COMPLETED**

25 October 1968

**MEMORANDUM FOR THE RECORD****SUBJECT: R&D Program Hearings with BOB**

1. Mr. Duckett started the first of several R&D hearings by propounding his philosophy on the practice of R&D in the Agency. The R&D program in the Agency has reached a steady state condition and has been so in the recent past. To explain this condition, we must look back for reasons. In the last ten years the intelligence problem has changed radically. In the next ten years we must look forward to the same fluid conditions. To put it another way, the very nature of the intelligence business is one of response. We "dance to other people's music." This not only implies but almost states categorically that our R&D programs must become and remain adaptable. It also implies that we must anticipate some operational requirements and start development of equipment or other means to satisfy those requirements.

2. If we try to look at the total requirement picture and respond only to clear and present dangers, we will never be ready to answer all intelligence production needs. To put it another way, we should look for changes in collection and production requirements at every turn. Even if we ourselves cannot define each problem, we certainly cannot delay R&D until each problem is categorized and surfaced. Here is a strong argument for doing some so-called exploratory R&D.

3. The Agency R&D staff cannot hope to compete with DOD or with industry. We, therefore, by necessity restrict ourselves to actions of unique value to the intelligence process. For example, our micro-power/microminiaturize projects have grown because we found no one particularly concerned with the efficiency of microminiaturized components. Moreover, we were concerned with specific intelligence applications and unique requirements for microminiaturization such as audio power supplies. Such specific applications will not be attacked by normal methods or by the average scientific community. Therefore, it falls to us to do what, on the surface at least, appears to be some basic scientific development.

4. To be effective we must know what goes in the basic scientific work areas, and one example of our technique is the S&T Panel. This panel evaluates developments, state of the art, depth of understanding in R&D work, and checks and balances in the R&D field.

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5. We have also made great strides in improving the efficiency of our R&D work. We have an Agency coordinator who treats the entire R&D program for the Agency as a single entity responsive to all Agency needs. The project officer's handbook is at least a start toward standardizing R&D coordinating and contracting procedures. Technical field monitors oversee all Agency work in their particular scientific field. We have the beginning of a common data base in the Contract Information System which has proven itself of great value to the DD/S&T. Quarterly reviews have also increased the overview which the DD/S&T has of impending R&D work. Mr. Duckett will begin now to meet with other Deputy Directors to discuss total R&D guidance, to evaluate major projects, and to determine the overall impact of major R&D areas.

6. There are several key problems for which we have next to nothing on which to produce intelligence. The DD/S&T Requirements Panel is a first step taken toward trying to determine what the unsolved problems are and in what rank they fall.

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7. Mr. Duckett made it clear that ORD is primarily concerned with basic development, while others such as TSD are more properly focused on "matters of the moment."

8. How big an R&D program should we have? If it should logically be given a percentage of the Agency budget, ours is very small in comparison to most industrial budgets. It seems to be the minimum program which we can afford, but we do not really know this with much precision. We have no lack of problems or "hope chest" lists. The major control on our R&D program is the size of our staff. It is doing the best it can now, and there seems to be a pretty good balance between the number of people and the money which they have to spend.

9. The last and perhaps one of the most important points raised was the utter necessity to do some exploratory R&D, perhaps as much as ten to twenty per cent of the R&D budget. It should be clearly understood and accepted that this exploratory R&D may not produce a usable intelligence gathering, processing or production equipment or technique. On the other hand, it may produce a bonanza, the one technique which will answer the single most important intelligence problem of the moment. We will never know unless we try.

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10. The [REDACTED] briefing was given by [REDACTED] in which he reviewed the intelligence value and the technical capability of the program. The conclusion (from the S&T Panel, among others) was that [REDACTED] is a unique collection capability; it is flexible and it can support other collection activities. The remainder of the briefing is well recorded and available for examination; therefore, no account need be recorded here.

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11. It was agreed to provide FY68, FY69, and FY70 [REDACTED] costs to Mr. Hurley. These are to be copies of the charts presented at the briefing.

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12. The IPRD briefing was given by [REDACTED]. The main point of [REDACTED] briefing was the mission of IPRD in which it was stated that IPRD supports R&D advances in information processing. They work out new developments with real data prior to passing the technical equipment on to users. In [REDACTED] words, "he puts the pieces together into a system." Here again, copies of IPRD cost and organization charts will be provided to Mr. Hurley. The remainder of the IPRD briefing turned out to be a resume of trends in the computer business coupled with a plea for more positions and more dollars.

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13. The next major item covered was IP/IP. [REDACTED] gave most of this briefing in which the major emphasis was on work in analysis. [REDACTED] agreed to provide yearly costs for [REDACTED] for Mr. Hurley. He also agreed to provide yearly costs for Key Word Recognition.

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15. Office of Communications' work in IP/IP had been done earlier.

16. For NIPC, external R&D emphasis was placed on development of tools for the photo interpreter to use with new formats of photography and to automate the interpretation process. This is really development, not research. From their development work they get prototypes which frequently are one-of-a-kind machines which never go into production.

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17. What part of the NPIC R&D program is precisely keyed to [redacted] There is very little this year. Improvements are planned and intended to keep NPIC up with all photographic collection formats, [redacted]

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19. Under Communications R&D, ORD goes up a little in new systems and techniques under the COMSEC element. Machine Emanations Analysis is the biggest single project under here. The General Purpose element includes graphic data transmission which had been under the sub-category, Other R&D, but was more appropriately placed under Communications. The remainder of the Commo R&D in ORD includes data transmission development for specialized transmission techniques, [redacted]

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21. Collection Systems R&D was covered while the undersigned was away at another meeting.

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Chief

Plans and Programs Branch

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